SHARP®

Driving Student Engagement with Digital Signage

How to Get the Most out of Your Investment in Classroom Technology

In today's rapidly changing educational landscape, providing students with the right technology is critical in order to prepare them for life and work in the 21st century. For many schools, however, providing cutting-edge technology is made difficult by limited budgets. Because funds are finite, school leaders need to find ways to get the most impact out of their technology purchases. In an era when products are constantly evolving, the main challenge is to make the right decision at the right time for the best return on investment.

In education, return on investment is defined by more than just dollars and cents, although stretching funds is always a serious concern. For educational institutions, the return on technology spending should also be measured in terms of the human benefits of student engagement and educational achievement. Ultimately, technology directors and school superintendents need products that are cost-effective, drive results and engage students.

Which EdTech Products Yield the Greatest Returns?

Although total spending on educational technology in K-12 schools is increasing, technology is not a major component of most school budgets. According to the National Center for Education Statistics, salaries and benefits take up 80% of K-12 spending. An individual school district's budget is likely to have only a small percentage of funds earmarked for technology, making it imperative that leaders choose the products that will have the most positive impact on student learning.

It can be difficult for administrators to feel confident about their choices when the research rarely points to an obvious winner in terms of which technology purchases offer the most to students. Disturbingly, most studies show "little to no effect of classroom computers on student achievement," making it difficult to justify purchases to a skeptical school board. However, a closer look into the way different technologies are used in the classroom shows that certain technologies do increase student achievement and engagement.

For example, researchers have found that classroom technology is most effective when used in ways that have no traditional pedagogical counterpart. Looking up information on the internet, for example, had a positive impact on student achievement, while simply using computers for practice drills had a negative effect, most likely because teachers already had other, more effective ways of working with students for practice.

Another study suggests that the most effective uses of classroom technology are those that enhance communication among students and with the teacher, presumably because working with a teacher in person was more engaging than spending too much time alone with a screen. Tenth graders with teachers who focused on communication with technology saw improved standardized test scores as a result.

Likewise, a survey of student perspectives on technology in the classroom supports the use of technology for communication. The middle school students surveyed expressed positive reactions to

creative assignments using technology yet "voiced outright hatred for teacher-directed, PowerPoint-supported lectures." Students made clear that they wanted to be at the center of their learning and felt most engaged when given freedom to work on their own and with others.

Positive perceptions of technology also play a role in student achievement. Researchers have found that positive attitudes about technology are correlated with better standardized test scores. When students feel that they have been provided with high-quality technology, their attitudes improve, and these attitudes are correlated with higher achievement.

This research strongly suggests that not all educational technology is created equal. Student achievement and engagement are closely related, and both are improved when technology leads to student-centered, active learning that encourages interpersonal communication and research. The quality of the technology is also important, which makes sense: Students who are immersed in high-tech products in their daily lives have more respect for schools that provide them equal or better quality experiences than they get at home.

Because most of this research points out the critical importance of student engagement with technology, administrators would do well to focus on products that do the most to foster engagement and communication. While using a computer in class to drill practice problems did not result in positive achievement, activities that allowed students to work together and be creative did.

To achieve this end, display technology offers an outstanding return on investment for K-12 schools. Crisp, colorful displays provide high-quality images to the whole class, while interactive white boards increase engagement by allowing students to participate more fully in technology-based lessons. Rather than focusing on computing power for individual work, schools can make a major impression on students with a careful selection of displays designed to foster collaboration and engagement —

particularly when used as part of a classroom set up for flexible learning.

How Digital Signage and Displays Engage Students

Today's students are accustomed to looking at ultra-sharp images on their smartphones and tablets, so any digital display used in schools should deliver the same quality of images to foster those positive perceptions of technology. There are several ways to use digital displays to enhance student engagement:

- Projectors: For whole-class instruction, projectors are the perfect solution. They provide high-definition images on screens larger than 80-inches, enhancing lessons by allowing teachers to face the class with their full attention on students — thereby increasing interpersonal communication.
- Interactive large format displays: Today's students have high expectations about interacting with technology. Touch-enabled large format displays boost engagement and have been shown to increase test scores.
- Desktop monitors: Offering several workstations with large desktop monitors allows for both individual learning and small-group collaboration among students on creative projects.
- Collaboration software. Instructors can make sure students remain focused on lessons by using collaboration software that brings all displays in the classroom together under a common platform. The sharing of computers, tablets and devices like Raspberry Pi across the classroom enhances brainstorming and group work, which optimizes engagement and learning.

Digital Displays in the Modern Classroom

For directors of technology at K-12 schools, when developing a technology program with digital displays it's vital to understand what teachers are working to accomplish in the classroom. When student engagement is a key goal, the traditional, teacher-centered classroom model with rows of desks facing a whiteboard can be discarded in favor of a more collaborative environment.

The right combination of technology allows teachers to address many needs in one space. In a recent Sharp project in which an otherwise average classroom was transformed by creating three distinct areas for learning. A miniature lab of computers equipped with headphones and desktop displays was positioned at the back of the room. This area was ideal for individual research and practice, particularly for students working at their own pace.

The center of the room was outfitted with sit-stand desks arranged in U-shapes to foster small-group collaboration. These workstations each contained a computer with a 55-inch display so that all group members could easily collaborate on assignments and presentations. Students were also allowed to adjust their desks to sit or stand according to individual preferences, giving them further control over their comfort and learning styles.

At the front of the room was a large, interactive projector designed to engage the whole class. Rather than being fully teacher-centered, however, the projector allows for individuals and small groups to share their work with the whole room, increasing engagement and accountability. In this classroom, display technology allowed the teacher full flexibility in moving from whole-group to small-group and individualized instruction with ease.

In addition to the educational returns, the best classroom display technology will also provide years of use and will allow IT staff to easily maintain the products. The goal is to 'future-proof' solutions so that schools don't have to spend money replacing products every few years.

For example, displays with embedded OPS have slots on the back that IT professionals can use to connect computers or a Raspberry Pi for flexibility. A high-quality display could last for up to 10-plus years, so being able to update the attached computer as needed can save schools money several years. Likewise, ongoing product support from Sharp and software that allows IT administrators to monitor devices for problems ensure that schools get the most out of their investment. "We get involved with schools to brainstorm ideas and have a full conversation about their needs and concerns to make sure they get a solution that's viable for years to come," says Benson.

Assessing Your Classroom Technology Needs

To make sure that their specific educational goals are addressed, schools should follow a series of best practices for assessing their needs:

1. Understand your end goals: First, schools must define what they want to accomplish with their technology. At this stage, it's important to gather input from all stakeholders, including administrators, teachers, parents and students.

2. Assess your needs: Next, audit your current technology and assess how well it meets your goals. Brainstorm and research new products that will fill in gaps and help you reach your educational goals.

3. Review products: Once you've determined what you need, review product options to compare specific features. Keep in mind that the best products will provide flexibility for educators as well as for IT personnel. Look for displays designed to work with your existing technology and that will grow with your programming.

4. Assess your proposals: Collect bids from different sources to provide the products you've chosen. As you compare, weigh not just prices but also service, warranties, upgrades and future-proofing benefits included in the quote.

5. Implement your program: The work doesn't end upon installation. Remember to provide robust professional development not only about operating new items but also for best practices in using classroom technology to increase collaboration and engagement.

Conclusion

By using display technology to enhance student engagement, schools can transform their classrooms into collaborative centers and foster higher achievement. Sharp is dedicated to providing affordable, high-quality products and service to help schools meet the needs of all students.